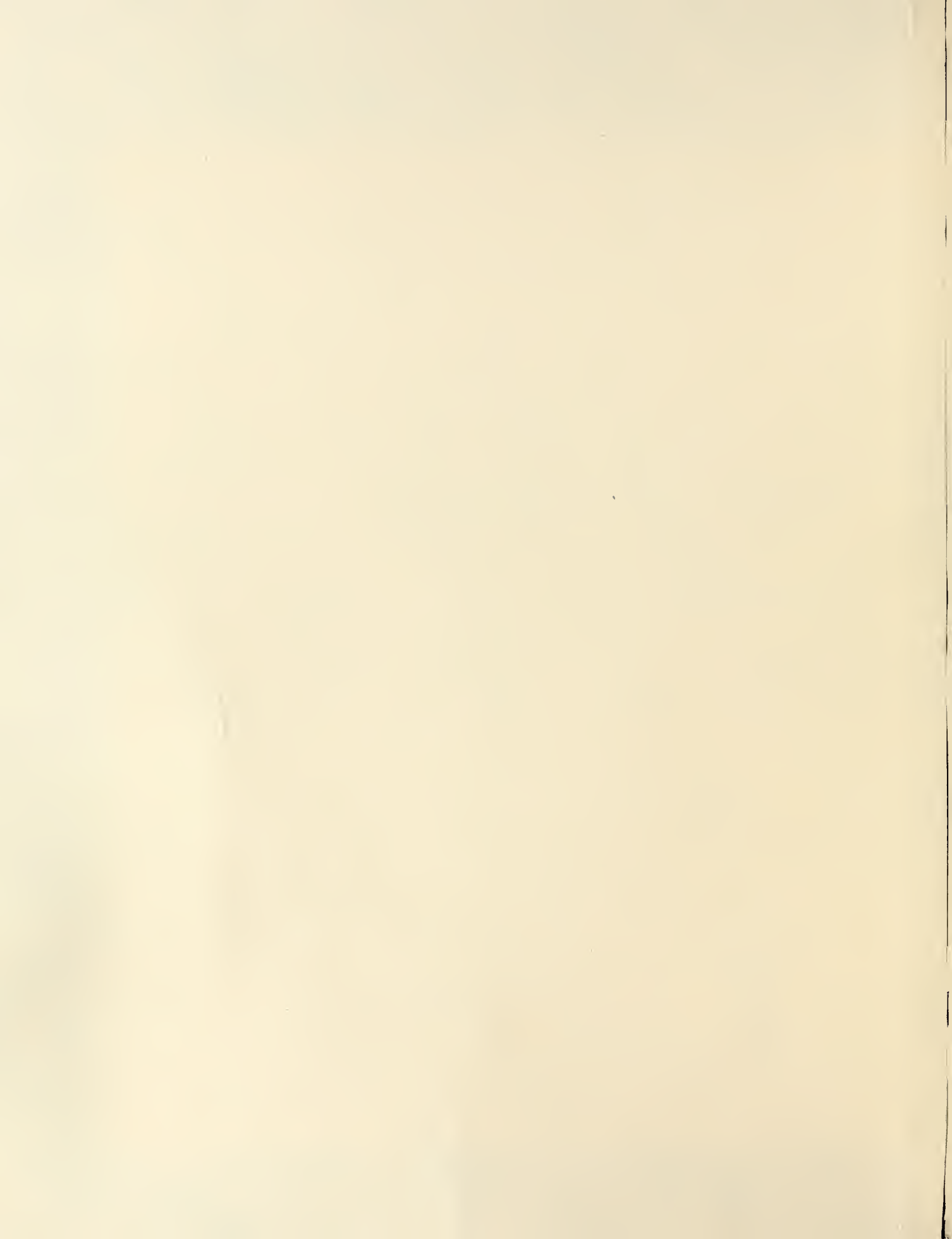


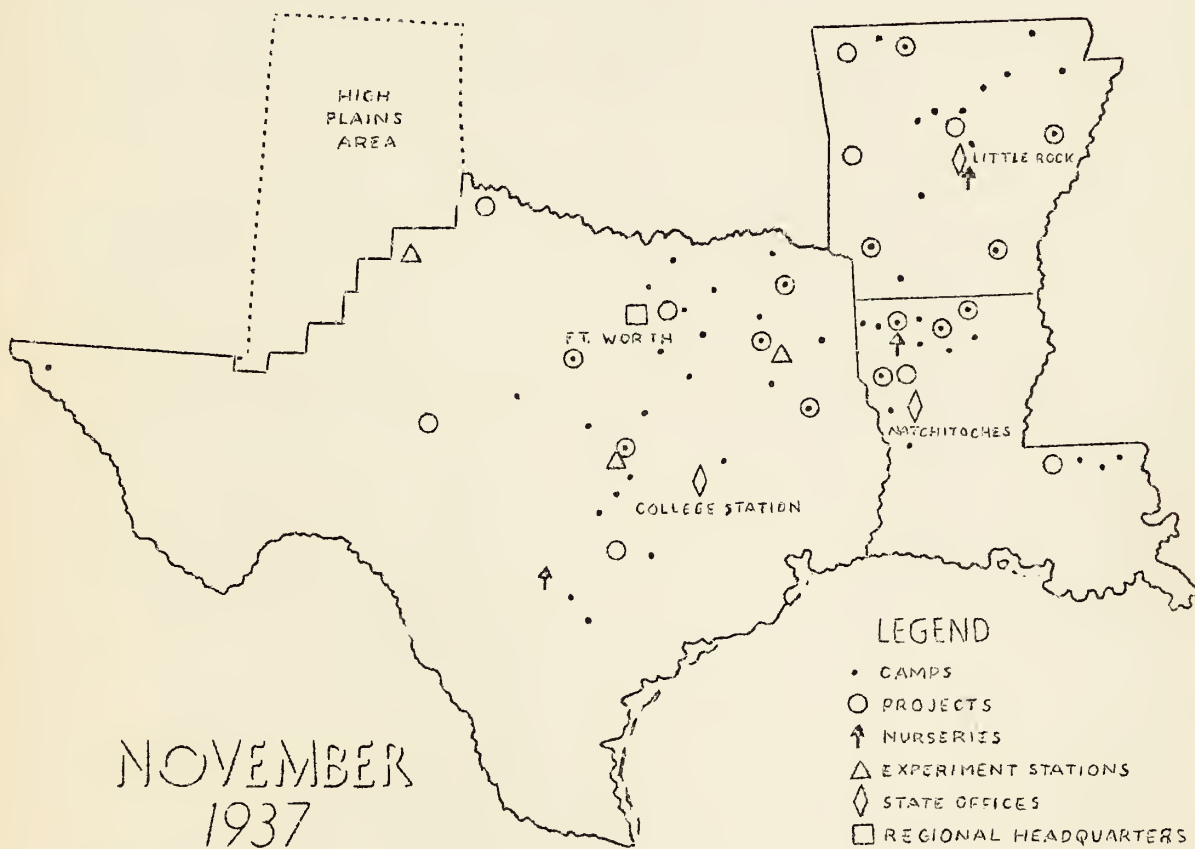
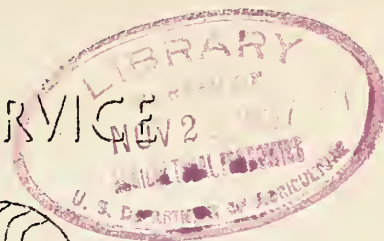
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# SOIL CONSERVATION SERVICE

## NEWS



REGION 4  
COMPRISING STATES OF LOUISIANA,  
ARKANSAS, AND TEXAS EXCEPT  
HIGH PLAINS AREA



POSSIBILITIES OF CROTALARIA SPECTABILIS

By

C. B. Webster, Head  
Nursery Section, Region IV

The possibilities of Crotalaria for green manure crop, wildlife food, and seed production have been well demonstrated during the present year at the Sibley Nursery in northwestern Louisiana. The first planting was made on June 16th in Field 5. Plantings were made on June 17th and June 24th in Field 11. All seed was of the early maturing strain of Crotalaria spectabilis, originally obtained by the Nursery Section from the Georgia Experiment Station. By October 1st the plants had matured sufficiently to produce 265 pounds of clean seed which gave basis for an estimated total production of 3,700 pounds.

To determine the probable amount of green material produced per acre by these plants, sample plots were selected in Field 11 and 5 on September 22nd totaling 100 square feet. From these plots, all Crotalaria plants were removed and weighed. Each plant was pulled by hand and all dirt shaken from the roots. The average plant had about 6 inches of tap root attached after pulling. That part of Field 11, planted on June 17th, averaged in this test 14.1 tons of green material per acre with the individual plots ranging from 17.4 tons to 12.2 tons. Material from plantings made in the same field on June 24th averaged 7.98 tons. Plantings made on June 16th in Field 5 averaged 5.2 tons of green material per acre. In that part of Field 11 that produced the 14 tons per acre, the Cahaba soil is not at all fertile. That part of Field 11 that averaged 7.9 tons per acre is on Norfolk fine sandy loam, deep phase. The plantings on Field 5 that averaged 5.2 tons per acre are on Ruston gravelly fine sandy loam. None of the plantings received any irrigation other than that given them by rains, including 2.93 inches in June, 3.82 inches in July, 4.23 inches in August, and 0.43 inches up to September 23rd.

Crotalaria is a legume and, therefore, valuable as a soil builder. Examination of the roots of the plants pulled in the above mentioned study revealed excellent nodule formation on all plants. One planting made on June 24th was with seed that had not been inoculated with "Nitragin." The September 22nd examinations disclosed that the roots of the untreated plants carried just about as many nodules as did the roots of the treated plants.

These results at Sibley Nursery indicate the possibilities of planting Crotalaria spectabilis as soon as frost danger is over in the spring as a green manure crop to be turned under in mid-June. Then if seed production is desired, the area can be immediately replanted and the seed crop harvested in late September and October. The planting method used at the Sibley Nursery is as follows:

Before planting, seed were scarified by being placed in water with a temperature of 120 degrees Fahrenheit. The water was then allowed to cool until the seed were removed 12 or 14 hours later. The seed were planted



immediately after removal, using a Planet Jr. seeder. Before planting, the seed were first mixed with dry sand. The drills were 18 inches apart with 35 seed per row foot or approximately 26 pounds per acre. Very quick and even germination resulted with an average emergency time of 5 days after planting. The planting rate can undoubtedly be reduced by  $1/4$ , or possibly  $1/3$ , without materially reducing the amount of green material or the quantity of the seed produced.

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## BRUSH DISPOSAL AND RESEEDING CUTOVER CEDAR BRAKES

By

Siron F. Wolff,  
Agronomist.

The typical cedar brakes in Texas occupy the limestone slopes and escarpments of the Grand Prairie and Edwards Plateau. In places the cedars are mixed with oaks, some of which are trees, and others shrubs. Information given by old settlers leads one to believe that one of the tree oaks, called the Spanish oak, in the early days was more common on the escarpments and steep slopes than the mountain cedar. The cedar has gradually replaced it and ~~is~~ spreading onto the better soil areas below the escarpments. This replacement of oaks in localities has been the result of man's need for the oak wood for fuel and because of heavy browsing and low acorn production. When the cedar is in pure stands on the slopes it forms dense thickets, the lower heavy branches of adjoining trees touching. The actual ground cover of soil conserving plants, such as grasses, is almost wanting. Animals browse through the cedars, disturb the soil and make paths. Rain water washing down the slopes removes the topsoil as fast as it forms. Often a great deal of the crumbling parent material or limestone fragments is also removed.

When eroded cedar brakes are cleared, the stump mounds usually have some soil on them. But this, too, disappears if exposed for any period to rainfall. The problem in cutting brakes to increase pasturage appears to be one of keeping in place the remaining soil laden with organic matter, and establishing a cover of grasses and palatable forage species to stop the rapid surface runoff. Here and there one finds individual plants and in open spaces small colonies of a few species of grasses like the stiff hairy grama (Bouteloua hirsuta var. or Bouteloua gracilis stricta), little bluestem (Andropogon scoparius), needle grasses (Aristida and Stipa species), Buffalo grass (Buchloe dactyloides). Rarely are enough seeds of these grasses available to properly reseed the cutover brakes. Given several years and protection these areas will become partly established in grasses. Artificial reseeding, together with the proper handling of brush and rock, appears to be helpful in establishing a grass cover.

Cedar brush can be piled and burned; can be piled on the contour and left unburned to rot and catch soil and seed as they are carried down the slope; or left scattered after the trees are trimmed. Piling on the contour means extra handling, but it does furnish a good barrier for filtering out slope wash. An example of this was observed northwest of Gatesville on the George Davis ranch. After nearly three years where the brush was contoured at the base of a partially denuded and rocky slope, the partly rotted brush rows







were supporting and protecting large colonies of tall grasses, such as: little bluestem, Indian grass (Sorghastrum nutans), side-oats grama (Bouteloua curtipendula), meadow dropseed (Sporobolus asper var. hookeri), and beardgrass (Andropogon saccharoides). These were producing seed in October. Some of the plants no doubt came from seed. Where brush clearing had been done on a buffalo grass turf, the tall grasses were not evident.

Should brush be left scattered? On the John Taylor farm near Gatesville is a good example of this method coupled with overseeding and protection from grazing. The following grasses were seeded March 16, 1937, in the brush and on the bare ground around the brush: blue grama (Bouteloua gracilis), tall hairy grama, buffalo and little bluestem. Germination occurred after May 1. A similar planting at the same time on cutover cedar stump land, where the brush was burned and with considerable topsoil remaining, gave almost negative results, except with blue grama.

Below are listed the results of these seedings:

#### COMPARISON OF CUTOVER CEDAR BRAKE GRASS SEEDINGS AND SURVIVAL

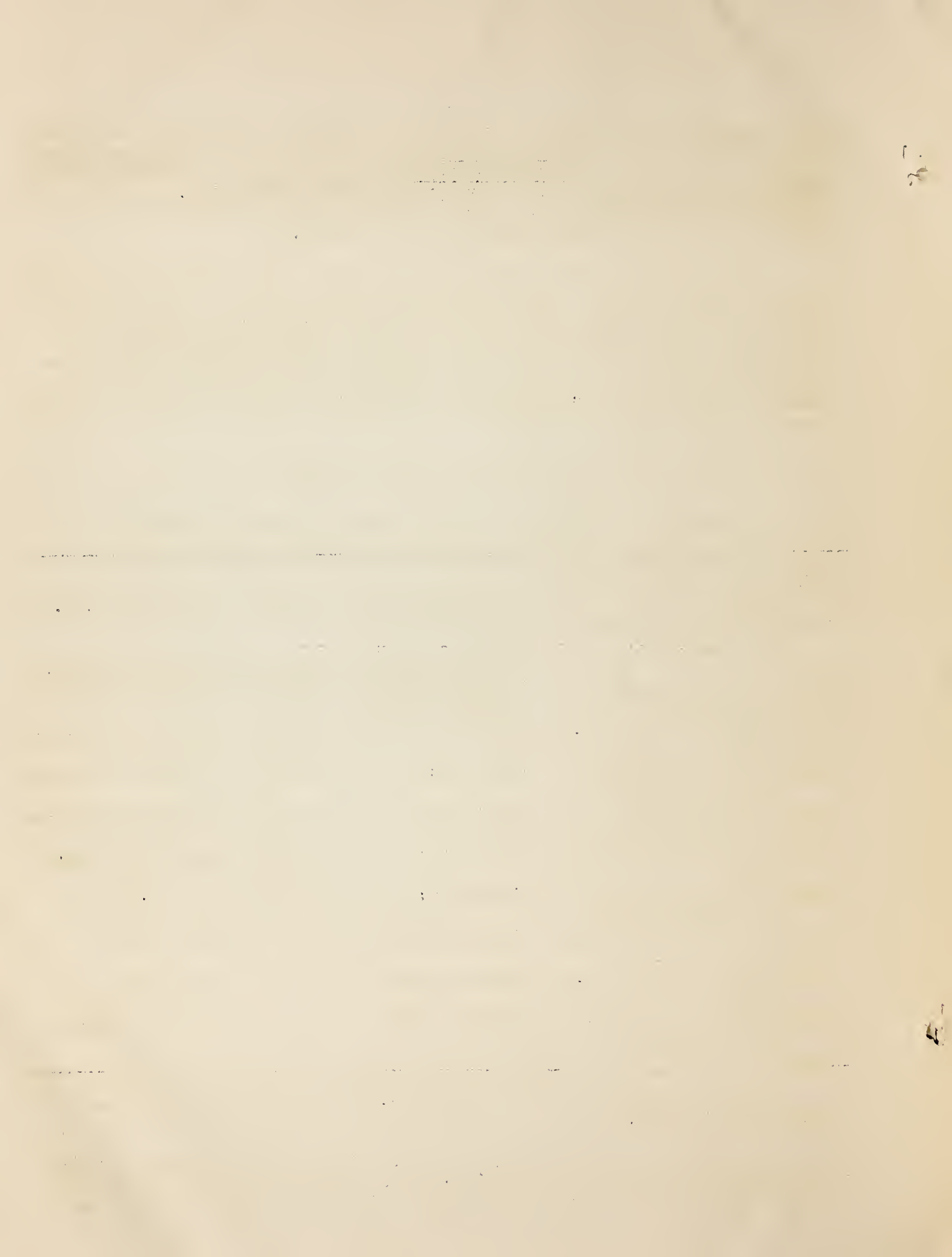
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Brush burned, topsoil good, fenced:	Little bluestem:	Average: 0 plants per sq.ft.
Brush scattered, unburned, area denuded:	Little bluestem: (Under brush)	Average: 47 plants per sq.ft.
Brush scattered, unburned, area denuded:	Little bluestem: (Open ground)	Average: 1 plant per sq. ft.
Brush burned, topsoil good, fenced:	Blue grama:	Average: 1.7 plants per sq.ft.
Brush scattered, unburned, denuded, fenced:	Blue grama:	Average: 6 1/2 plants per sq.ft.
Brush scattered, unburned, denuded, grazed:	Blue grama:	Average: 6- plants per sq.ft.
Brush scattered, denuded, fenced:	Hairy grama:	Average: 4 plants per sq.ft.
Brush absent, denuded, grazed and severely eroded:	Hairy grama:	Trace only.
Brush burned, topsoil good, fenced:	Hairy grama:	Trace only.
Brush burned, topsoil good, fenced:	Buffalo grass:	Trace only.
Brush scattered, unburned, denuded, fenced:	Buffalo grass:	Scattered plants.

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These seedings were made in March 1937. The survival records were taken in October 1937.

Comparing the results above, one can see that brush protection permitted 47 plants of bluestem per square foot as compared to one per square foot in the same area but on open ground where erosion was heavy. The seed were



left or caught in the brush. The same results were obtained with blue and hairy grama even though not shown above. Fencing and some brush protection permitted four plants of hairy grama per square foot, while on an area subject to sheet erosion and grazing only a trace of plants was found. A greater survival of buffalo plants occurred where brush gave protection than in good soil where the brush was burned. The seeds were covered slightly in the area free of brush and with topsoil, while on the area left in brush they were scattered on top of the ground. Blue grama was the only grass that produced seed from spring seedings. Although too early to give adequate records, it is believed that brush left scattered, under and around which grass seedings have been made, will give enough protection for two years to permit the establishment and reseeding of important native and introduced grasses. Brush piled on the contour will furnish the same protection for longer periods and will be better for slowing up and retaining slope wash.

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#### KNOW YOUR COOPERATOR

"Since becoming a member of the Voluntary Soil Conservation Association I have learned more about conserving the resources of my farm than I ever thought I'd know," were the words of Guy Grandstaff as he proudly accompanied the writer on a tour of his 153 acre farm, located two miles north of Waldron.

"My father paid a small fortune for this land back in 1918, when cotton was selling for 40¢ a pound. In those times this land would grow a bale of cotton or forty bushels of corn per acre. During the past few years it hasn't produced half that. And prices during the past several years haven't been a third of what they were when we bought this land. Besides that, erosion just about had me licked. I was barely able to meet taxes and interest, by working from daylight till dark.

"Before I became a member of the Voluntary Soil Conservation Association I had tried many ways to prevent my land from washing. I was struggling against something that was more powerful than myself. With the advice of the project technicians, I began to make improvements. I learned what plants store up nitrogen in the soil; which ones grasp the soil with their roots and keep it in place. I learned many other things, and am finding out more every day."

Mr. Grandstaff is an ardent believer in Lespedeza. On a seven acre meadow, which he sowed in the spring of 1936, he has harvested 1140 lbs. of seed, which he can sell at 10¢ a pound, besides the 300 bales of hay, which, he says, is the best roughage that can be had. He mixes cotton seed meal with the Lespedeza hay for dairy feed, with excellent results.

"There is no comparison between the two crops, cotton and Lespedeza, as far as production costs, net profit and soil-building properties are concerned," Mr. Grandstaff stated. The Lespedeza seed alone is worth far more in cash value than a cotton crop on the same acreage, he said.



Mr. Grandstaff takes time to find out the meaning of every phase of soil-building, which the staff recommends for his farm. He and his son Bill, explained every detail of the terracing program, showing how the two diversion ditches take the water, which had once flowed in sheets over their crops, into the main channels, which are sodded with Bermuda and seeded to Lespedeza. They estimate one year's hay crop taken from the terrace outlets alone will go a long way toward paying them for their labor in building them. Grandstaff explained further how he had sodded strips of Bermuda grass across the rapidly deepening gullies, and pointed to the rich soil which had already accumulated at the base of each strip.

Since becoming a cooperator, Mr. Grandstaff has become acquainted with another great soil builder - Soy beans. He sowed one-fourth of an acre in the Mammoth Yellow variety this spring, from two pounds of seed. He estimates that the two pounds of seed will put one hundred and fifty pounds of nitrogen into the soil, besides the value of this year's seed, which he will use to plant as much land as possible next year. He intends to carefully pick the seed by hand, and then turn under the remaining stalks and leaves.

"If I bought all that nitrogen outright, it would cost plenty of money. Therefore, I can save several dollars by growing my own nitrogen," was his comment.

When he first became a cooperator, there was a seven acre plot of practically worthless land on Mr. Grandstaff's place. With the advice of the Conservation Service technicians, he planted 16,000 trees on this barren space - 9,000 pines, 2,000 black walnuts and 5,000 locusts. In ten years, the locusts will be large enough for fence posts, and will have added an inestimable amount of nitrogen to the once unproductive soil.

In conclusion, Mr. Grandstaff said that he intends to follow religiously the practices which have been inaugurated on his farm.

"I was one of the first signers," he said, "and started learning and doing things which I never thought of before; and I don't intend to stop. I learned how to turn my gullies into meadows, and that is enough to convince me that Soil Conservation is the only salvation for the farmers of this section."

- - Project Ark-6,  
Waldron, Ark.

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#### FARMERS ORGANIZE GAME CONSERVATION ASSOCIATIONS

A meeting for the purpose of organizing a cooperative game conservation association for the protection of wildlife including quail dove, song and insect eating birds and fish within the Green Creek watershed area was held in each of the three communities within that area October 18, 19 and 20. A. W. Shoup, J. K. Grissom and P. W. Warren were elected presidents of the Green Creek, Bunyan and Harbin Associations respectively and every one of the sixty-five farmers and land owners attending these meetings joined this local association.





Each association member agreed to put up posted signs on his farm, to control or prohibit hunting to the extent that a reasonable amount of each of the wildlife forms present will be left at the close of each hunting season for seed stock (for quail 40% of each covey should be left at the close of the hunting season), and agreed to furnish ample food and cover so that wildlife may be protected and propagated.

Unburned fence rows, corners fenced off in pastures so as not to be grazed by livestock, waste feed in cultivated fields, strip crops, and border crops furnish excellent food and cover for wildlife.

These associations plan to contact every farmer in the watershed and to cooperate in having a "Game Preserve" in the entire area. Signs for posting individual farms are rapidly being made and put up over the area.

- - Project Tex-8,  
Dublin, Texas.

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#### WAY TO INCREASE INTEREST IN WILDLIFE

Knowing that a Wildlife conservation program will mean much to a complete Soil Conservation Program, to the farmers themselves, and to the General Public, a series of three meetings have been held this past month in the Carisso Creek Area. Those in attendance were Soil Conservation Service cooperators and others interested in the program.

Meetings were held Monday, Tuesday, and Wednesday, October 4, 5, and 6, at the Oak Ridge School, Trinity Church, and Bethel Church respectively, with a total of approximately 40 persons in attendance. Many others who were unable to attend the meetings have stated their intentions of cooperating in this program.

Much interest was evidenced at each meeting and the Carisso Creek Soil Conservation Association is going to promote, as one of its objectives a cooperative Wildlife program first in the Carisso Creek Watershed, and then to the adjoining areas. Such items as controlled hunting, cooperation between hunters and landowners, posting, food and cover for game, and the elimination of stray cats and dogs were discussed at each meeting.

- - Project Tex-7,  
Nacogdoches, Texas.

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#### A GOOD COOPERATOR

##### A GOOD COOPERATOR

1. Knows the Soil Conservation Program on his farm and discusses its different phases with visitors, i.e.,
  - (a) Why certain areas were terraced and strip cropped;
  - (b) Why certain areas were strip cropped alone;
  - (c) Why certain areas were retired from cultivation.





2. Realizes the importance of a complete coordinated program of soil and moisture conservation and land use;
3. Realizes the agreement entered into between himself and the government is a cooperative agreement and is carried out in a cooperative manner, each working together to save the soil for future generations.
4. Keep terrace outlets and channels open by mowing weeds and grass.
5. Follows rotation that was planned by him and a representative of the Soil Conservation for his farm.
6. Does not overgraze his pasture. Governs the number of livestock on his place by the carrying capacity of his pasture.
7. Controls weeds in his pasture with sheep or by mowing.
8. Makes helpful suggestions as they may arise.
9. Ignores outside criticism meant to discourage program, Explains how program has helped him in his farming operations, increased yields per acre, and at the same time has helped him keep his soil on his farm.
10. Reports true farm conditions from time to time.
11. Feels free to call on Soil Conservation Service to discuss soil conservation problems.

- - Project Tex-4,  
Lockhart, Texas.

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#### WILDLIFE PROGRAM VIEWED

"Twenty years ago, when I first came on this farm I could have found from fifteen to twenty large covies of quail any time I wanted to on my 200 acres. But now, I dare say I could not find three-- and they would be small ones." So stated Mr. R. B. Shields, a cooperater with the Soil Conservation Service in the Farmerville, Louisiana, area this week.

Mr. Shields is now providing sufficient food and cover the entire year for his birds, and knows that they are very beneficial in destroying boll weevils and other insect. injurious to crops.

"I have posted my farm and I'm cooperating with the Soil Conservation Service in a complete wildlife and erosion control program. I want to restore the game on my farm to the extent that it was twenty years ago," said Mr. Shields.

- - Project La-5,  
Farmerville, La.



A WORTH WHILE LETTER

DEAR COOPERATOR:

Now that the cotton crop is practically harvested, many of you farm operators, tenants, and non-landowners in general will be moving before the next "cropping season."

Some of you have been working for the past two years with the practices recommended by the Soil Conservation Service, both in the Project area as well as the Nacogdoches and the Madisonville Camp areas. We hope and believe that our recommendations of terracing, strip cropping, forest planting and woodland management, wildlife conservation, gopher control, vegetative control, and other practices of soil and water conservation in relation to farm organization, operation and land utilization have gone more than "skin deep" with you.

It is my recommendation and suggestion that any of you working farms next year that are not under Cooperative Agreement with a Soil Conservation Project or Camp area, to decide now, to put those same conservation practices in effect as rapidly as possible on the farms you work next or following years. Our Staff will be glad to make suggestions when called upon by you as will other Agencies - such as, County Agents and Vocational Agriculture Teachers.

Furthermore, I would like to suggest to you landowners in our Project and Camp areas, who may have now tenants this next season working your farm, that you can be a big help to "yourself" and to the program of Soil and Water Conservation. This can be accomplished by explaining in detail each phase of the program found on your farm, to your new tenant. By doing this he will understand what is expected of him, realize benefits to be derived from various practices, and "carry on" the work that, in many cases, has been in practice some two years now which you certainly should want to continue and spread.

- - Project Tex-7,  
Nacogdoches, Texas.

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KEEP COOPERATORS POSTED ON TREATMENT FOR NEW  
TERRACES

With the terracing season in full swing, it is timely to outline the proper treatment for newly constructed terraces. Many farmers wonder just what is the best thing to do to terraces when the tractor and grader leave.

Of course, the first step is making fills. Terraces, like chains, are no stronger than their weakest sections. Therefore, each low place must be filled to the height of the "fill stakes" set by the terrace checkers.



New terraces are left more or less rough; especially when numerous fills have been made with slips or fresnes. In order to smooth up the terraces and give them a uniform width and shape, and at the same time prepare a better seed bed for the strip crops, each terrace should be plowed up with a turning plow. After this is done the sides of the terrace ridges are uniform and less soil will be lost off the terraces during the settling period.

Another important step in the care of new and old terraces is to kill all pocket gophers by poisoning as soon as any signs are noticed.

- - Project La-5,  
Farmerville, Louisiana.

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#### SUGGESTIONS FOR FARM WORK THIS MONTH

Let us suggest a few things that can and should be done this month:

1. Be prepared to assist in marking off the strip crop lines on your farm.
2. Build up terrace ends and make terrace fills as soon as terracing is completed.
3. Clear terrace lines of all stumps for tractor built terraces.
4. Construct farmer-built terraces.
5. Make preparation for planting Black Locust.
6. Secure wire, post and staples to be used in construction of new fences called for in the agreement.
7. Plant strip crops.

- - Project La-5,  
Farmerville, Louisiana.

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